

What is claimed is:

1. A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

a processor coupled to the position memory, the processor operable to track communication targets by updating the communication target positions based on updated communication target positions received in an uplink; and

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions.

2. A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

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a processor coupled to the position memory, the processor operable to track communication targets by updating the communication target positions based on updated communication target positions received in an uplink; and

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating the updated communication target positions.

3. A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

a processor coupled to the position memory, the processor operable to track communication targets by updating the communication target positions based on updated communication target positions received in an uplink; and

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating updated communication target positions comprising latitude and longitude positions.

4. A communication path processing system for a communication satellite comprising:

an electronically steered phased array antenna;

a position memory for storing communication target positions;

a processor coupled to the position memory, the processor operable to track communication targets by updating the communication target positions based on updated communication target positions received in an uplink;

an antenna controller coupled to the antenna and to the processor for steering the antenna in accordance with the target positions; and

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a predetermined time division multiplexed access schedule for updating communication targets;

the antenna generating beam spots assigned to individual communication targets, and the communication targets individually exercising control over assigned beam spots by generating updated communication target positions in accordance with the access schedule.

5. A method for providing communication bandwidth with a communication satellite, the method comprising:

reading communication target positions from a position memory;

steering an electronically steered antenna in accordance with the target positions;

receiving updated communication target positions in an uplink; and

tracking communication targets by updating the communication target positions based on updated communication target positions.

6. The method of claim 5, wherein receiving comprises receiving latitude and longitude positions.

7. A method for providing communication bandwidth with a communication satellite, the method comprising:

reading communication target positions from a position memory;

steering an electronically steered antenna in accordance with the target positions;

receiving updated communication target positions in an uplink; and

tracking communication targets by updating the communication target positions based on updated communication target positions and steering in according with a predetermined time division multiplexed access schedule for communication targets.

8. A communication system comprising:

a plurality of mobile cells, including a first cell assigned to a single first communication target and a second cell assigned to a single second communication target;

a position memory storing a first cell position determined by the first communication target and associated with the first cell and a second cell position determined by

an antenna controller coupled to the antenna and the position memory, the antenna controller steering the antenna

in accordance with a predetermined access schedule, the antenna controller being further responsive to an updated first cell position from the first communication target to steer the antenna to the updated first cell position, the updated first cell position replacing the first cell position in the position memory.

10. The communication system of claim 9, wherein the antenna controller is responsive to an updated second cell position from the second communication target to steer the antenna to the updated second cell position, the updated second cell position replacing the second cell position in the position memory.

11. The communication system of claim 9, wherein the predetermined access schedule is a time division multiplexed access schedule.